

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 September 2005 (01.09.2005)

PCT

(10) International Publication Number  
**WO 2005/079578 A2**

(51) International Patent Classification<sup>7</sup>: **A01N 57/00**

(21) International Application Number:  
PCT/GB2005/000640

(22) International Filing Date: 21 February 2005 (21.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0403773.5 20 February 2004 (20.02.2004) GB

(71) Applicant (*for all designated States except US*): **RHODIA CONSUMER SPECIALTIES LIMITED** [GB/GB]; Oak House, Reeds Crescent, Watford, Hertfordshire WD24 4QP (GB).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **JONES, Christopher, Raymond** [GB/GB]; 110 Sutherland Road, Cheslyn Hay, Nr Walsall, South Staffordshire WS6 7BS (GB). **DIAZ, Raul** [US/US]; 8961 Fallsbrook Court, Conroe, TX 77302 (US).

(74) Agent: **BARKER BRETTELL**; 138 Hagley Road, Edgbaston, Birmingham B16 9PW (GB).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: EMBEDDED BIOCIDES

(57) Abstract: A phosphonium compound embedded in a matrix substrate wherein the phosphonium compound is selected from a group consisting of tris (hydroxyorgano) phosphine (THP), a THP<sup>+</sup> salt (tetrakis (hydroxyorgano) phosphonium salt) or a condensate of THP and a nitrogen containing compound. The compound may be used to reduce the numbers of micro organisms in industrial systems and may also be used to reduce iron carbonate or iron, lead and zinc scale deposits.



WO 2005/079578 A2